WHAT IS CLAIMED IS:

1. A method of identifying one or more analytes in a sample by electrophoretic separation, the method comprising the steps of:

applying a potential across a separation path containing one or more analytes to generate a current therein and to separate the one or more analytes so that a first electropherogram of a signal as a function of time is produced;

integrating the current with respect to time to provide a cumulative current as a function of time;

transforming the first electropherogram to a second electropherogram of the signal as function of the cumulative current; and

identifying in the second electropherogram peaks that are correlated with the one or more analytes in the sample.

2. The method according to claim 1, wherein said potential is constant.

3. The method according to claim 1, wherein said potential varies with time, and wherein said second electropherogram is a function further comprised of said potential as a function of time.

4. The method according to claim 3, wherein said potential varies with time such that said current in said separation path is constant.

5. The method according to claim 3, wherein said potential varies with time such that the power in said separation path is constant.

6. The method according to claim 1, wherein said separation path is a capillary tube.

7. The method according to claim 1, further comprising at least one electrophoretic mobility standard in said sample, wherein the at least one electrophoretic standard is used to identify peaks that are correlated with said one or more analytes of said sample.

8. The method according to claim 7, comprising two electrophoretic standards wherein the mobility of the first electrophoretic standard is greater than that of any analyte and the mobility of the second electrophoretic standard is less than that of any analyte in said sample.

9. The method according to claim 8, wherein said one or more analytes are molecular tags, wherein each tag has a different electrophoretic mobility.

10. The method according to claim 9, wherein the presence in said sample of said molecular tags is the result of a specific recognition event with at least one type of biomolecule selected from the group of proteins, antigens, receptors, DNA and RNA.

11. The method according to claim 9 or claim 10, wherein said one or more analytes of said sample is a plurality of said molecular tags, numbering in the range of from 2 to 50.

12. A system for identifying one or more analytes in a sample using electrophoretic separation, the system comprising:

a separation path comprising a separation medium;

a voltage source for applying a potential across the separation path so that a current is generated in the separation path and one or more analytes are separated along the separation path;

a detector positioned along the separation path for recording a first electropherogram of the signal intensity associated with the one or more analytes in the separation path as a function of time; and

a processor comprising software for (a) integrating with respect to time the current in the separation path to provide the cumulative current as a function of time; (b) transforming the first electropherogram to a second electropherogram of the signal intensity associated with the analytes as a function of the cumulative current; and (c) identifying in the second electropherogram peaks that are correlated with the one or more analytes in the sample.

13. The system according to claim 12, wherein said voltage source applies a constant voltage.

14. The system according to claim 12, wherein said voltage source applies a voltage varying with time, and further comprising a voltage recording device for recording the voltage applied across said separation path as a function of time, and said processor further comprising software for transforming said first electropherogram to a second electropherogram of the signal intensity as a function further comprised of the applied potential as a function of time.

15. The system according to claim 14, wherein said voltage source applies a voltage varying in time such that said current in said separation path is constant.

16. The system according to claim 14, wherein said voltage source applies a voltage varying in time such that the power in said separation path is constant.

17. The system according to claim 12, wherein said separation path is a capillary tube.

18. The system according to any one of claims 12 to 17, further comprising a plurality of separation paths.

19. The system according to claim 18, wherein said voltage source applies a potential independently across each of said separation paths.

20. The system according to claim 18, wherein said voltage source applies a potential jointly across said separation paths.

21. The system according to claim 12, further comprising at least one electrophoretic mobility standard, wherein the at least one mobility standard is used to identify in the second electropherogram peaks that are correlated with the analytes.

22. The system according to claim 21, comprising two mobility standards wherein the mobility of the first mobility standard is greater than that of any analyte and the mobility of the second mobility standard is less than that of any analyte in said sample.

23. A computer-readable product embodying a program for execution by a computer to identify one or more analytes in an electrophoretic separation by determining peak locations in a transformed electropherogram and correlating such peak locations with the one or more analytes, the program comprising instructions for:

reading a first electropherogram data set of an analyte signal as a function of separation time from a data storage medium;

reading a data set of current as a function of separation time from a data storage medium;

determining a data set of cumulative current as a function of separation time;

transforming the first electropherogram data set to a second electropherogram data set of the analyte signal as a function of cumulative current;

identifying peak locations in the second electropherogram; and

correlating the identified peak locations with each of the one or more analytes.

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